DOCUMENT RESUME

ED 169 091 TM 008 485

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TITLE Methodological Considerations for Needs Assessments at the National Level.
PUB DATE Mar 78
NOTE 16p.; Paper presented at the Annual Meeting of the American Educational Research Association (62nd, Toronto, Ontario, Canada, March 27-31, 1978)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Educational Needs; Educational Objectives; Evaluation Methods; Models; *National Surveys; *Needs Assessment; Rating Scales; *Research Methodology; *Research Problems; Research Utilization; Response Style (Tests); Secondary Education; Urban Education; *Vocational Education

ABSTRACT

The vocational education program needs of the nation's large cities were assessed by a mail survey of vocational educators in 106 major urban centers. Several procedural problems in generating appropriate instrument content and initial problems in obtaining data from respondents were encountered. Goal and objective statements generated through a review of current literature and the opinions of a sample of experts were not acceptable to local vocational educators. To overcome these problems, an open-ended survey and content analysis procedure was used to generate a set of goals and objectives judged acceptable by local vocational educators. Early exploration of alternative strategies indicated that a discrepancy methodology would reduce the rate of survey returns. Consequently, the study relied on a methodology requesting respondents to rate the importance of educational needs. Because of the large number of goals and objectives identified by the first step of the procedure, multiple forms were developed and utilized in the study. A response rate of over 65 percent was obtained. This experience in conducting a national needs assessment study causes us to question the applicability of the discrepancy approach for large studies. Alternative strategies of direct ratings of needs may be more feasible. (Author)

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METHODOLOGICAL CONSIDERATIONS FOR NEEDS ASSESSMENTS AT THE NATIONAL LEVEL*

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At the beginning of the 1970's there was a tremendous spurt of development in needs assessment models, procedures, and instruments. This momentum seems to be slowing down as the decade matures. From one perspective it appears that we have made sufficient progress in determining the needs for educational programs and can now move on to setting objectives and designing strategies to meet these needs. From another perspective there appears to be a growing disillusionment with the feasibility and utility of many needs assessment processes. Numerous methodological problems have plagued the implementation of needs assessments and restricted their utility. This paper examines some of the current approaches to needs assessment, identifies some of the methodological problems that have been experienced, and poses some alternative strategies based on experiences in a recent national needs assessment.

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* Paper presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada, March 27 to 31, 1978.

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Methodological Considerations for Needs Assessment at the National Level

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The vocational education program needs of the nation's large cities were assessed by a mail survey of vocational educators in 106 major urban centers. Several procedural problems in generating appropriate instrument content and initial problems in obtaining data from respondents were encountered. Goal and objective statements generated through a review of current literature and the opinions of a sample of experts were not acceptable to local vocational educators. To overcome these problems, an open-ended survey and content analysis procedure was used to generate a set of goals and objectives judged acceptable by local vocational educators. Early exploration of alternative strategies indicated that a discrepancy methodology would reduce the rate of survey returns. Consequently, the study relied on a methodology requesting respondents to rate the importance of educational needs. Because of the large number of goals and objectives identified by the first step of the procedure, multiple forms were developed and utilized in the study. A response rate of over 65 percent was obtained. This experience in conducting a national needs assessment study causes us to question the applicability of the discrepancy approach for large studies. Alternative strategies of direct ratings of needs may be more feasible.

Current Approaches to Needs Assessment

A variety of approaches to needs assessment have been tried. The most widely implemented approach has been discrepancy analysis. In discrepancy analysis, measuring a need requires at least three steps (Kaufman, R. A., 1972):

(1) Determining the current status of educational programs - "what is"

(2) Determining the desired status of educational programs - "what should be"

(3) Determining the amount of discrepancy between the current and desired status.

Other researchers have added a fourth step, rating the importance of reducing each discrepancy (Edge, 1973; Lange, 1974).

The "what is" dimension has been assessed through objective measures - tests and factual questionnaires, as well as subjective measures - ratings of the perceived current status of educational programs. The "what should be" dimension has been assessed through subjective measures - ratings of perceived importance, desired status, or priority.

Discrepancy needs assessment models using objective information about current status have been developed by the Center for the Study of Evaluation in their Elementary School Evaluation Kit: Needs Assessment (Hoepfner, 1972), Educational

Systems Associates (Read, 1974), Worldwide Educational and Research Institute (Eastmond, 1974), and the Ohio Department of Education (Division of Planning and Evaluation, 1973) among others.

Needs assessment approaches using subjective information about current status have been used by Batelle (Hamilton, 1972), Phi Delta Kappa (Rose, 1973), Westinghouse Learning Corporation (1973), Educational Testing Service (1974), Research for Better Schools (Delorne, 1974), and Almeda County School District (Witkins, 1975).

Methodological Problems of Needs Assessments

Some of the problems inherent in both objective and subjective approaches to discrepancy analysis are highlighted below.

Needs assessments often fail to provide insightful and specific information about needs. Needs assessments are most typically based around a set of general educational goals. The goals are often so general that placing them in priority order through importance rating and tests often reveals little more than common sense would have. The results are often so broad that they do not provide sufficient information for follow-up action.

Needs assessments may bury controversial needs. Needs assessments typically prioritize needs using measures of central tendency. This "democratic" calculation process often brings widely popular needs to the top of a priority listing (e.g., "Ensuring that all students master basic skills") while leaving more controversial needs (e.g., "Ensuring that the curriculum is free from sex role stereotyping") toward the bottom.

Measures of central tendency tend to cluster all needs into a narrow middle range. When needs are rated on rating scales, such as a five point Likert scale, most of the needs tend to end up in a fairly narrow middle range from 2.5 to 3.5. This makes it difficult and arbitrary to distinguish the relative priority of the needs.

Subjective information about the current status of programs may be invalid. Many needs assessments rely on peoples' perceptions about the current status of their programs. Perceptual information about "what is" may not reflect the actual situation since individuals may lack accurate and complete knowledge about the status of many areas. Even if knowledgeable about the programs, individuals have varying standards of perfection for rating how good a program is.

Objective information about the current status of programs may increase measurement error. Mathematically, the computation of discrepancy scores requires that both the "what is" and "what should be" dimensions are measured in a comparable way. If test scores are collected for the "what is" dimension and a rating scale is used for the "what should be" dimension, the test data must be converted to a similar scale to make comparisons possible. Measurement error becomes more likely through this conversion process.

Discrepancy scores magnify measurement error. If the ratings on either the "what is" or "what should be" dimensions are invalid, the discrepancy scores will be invalid. Even if both data sets have reasonably high validity, the discrepancy scores will magnify any existing error.

Simultaneous ratings of current and desired status encourage unreliable results. If ratings on "what is" and "what should be" are collected at the same time to save time, the process tends to have low face validity for most respondents. Rating each item on two dimensions becomes frustrating and may lead to instrument fatigue, especially if the instrument is long. Distinctions between

the two dimensions often seem arbitrary to respondents who may have insufficient knowledge and lack strong opinions for making fine discriminations.

Sequential ratings may lower return rate, increase costs, and dissipate energy for using results. The process is time consuming if the ratings on current status and desired status are sought through separate surveys. The response rate will also tend to be lower with two surveys and the overall cost of the study will tend to increase.

Discrepancy scores are clumsy to communicate, both to respondents and to the general public. Discrepancy scores with their decimal points and negative and positive valences are difficult to communicate to lay audiences. Attempts at explanation may become overly technical and tedious.

Alternative Strategies Used in a National Needs Assessment

To meet some of the problems inherent in the discrepancy approach to needs assessment, some alternative strategies were tried in a national assessment of vocational education needs in the nation's large cities. The National Large Cities Vocational Education Needs Study was conducted in cities with populations exceeding 100,000 to -

(1) Explore perceived needs through personal interviews, an open-ended mail survey, and literature review

(2) Determine the relative national priority of these needs by ratings from city directors of vocational education and their staffs, and

(3) Compare the need priorities in terms of city size, geographic location, and minority concentration to determine if different types of cities have unique needs.

Some unique features of the approach used in this study were:

(1) Maximum involvement of respondents in developing need statements

(2) Emphasis on face validity

(3) Delimiting the focus of the study at the outset to major problem areas

(4) Collecting both general and specific information about needs

(5) Using separate instruments to increase reliability

(6) Dissemination of interim results, and

(7) Using only one scale to measure the relative priority of needs.

Maximum involvement. Maximum involvement from the target constituencies was sought in the development of need statements. Personal interviews and an open-ended survey were used at the outset of the study to explore important problems and goals for urban vocational education. A group of the original respondents also helped review and critique the open-ended need statements to help synthesize them into an organized set. It was felt that participant involvement would facilitate use

of the study's results by maximizing the legitimacy and useability of the results for urban vocational educators. Speiss (1973) found that the utilization of evaluation conclusions in decision making is impacted on by both the decision maker's ability to interpret the evaluators' implications for action and the acceptance of the legitimacy of the evaluation. A study of factors in evaluations that increase the use of evaluation results (Patton and others, 1973) revealed that the single most important factor was the "personal factor". The personal factor is made up of "leadership, interest, commitment, enthusiasm, determination, aggressiveness, and caring about the evaluation". In other words, when decision makers and other relevant audiences were involved in thinking through and designing a study, the evaluation had impact. When these personal factors were absent, there was a marked decrease in impact.

Emphasis on face validity. Face validity is defined as the extent to which respondents view completion of the instrument as an important and understandable task. Face validity is extremely important when conducting survey research, especially with a respondent group which generally has little patience with "hard core" research. The face validity of the instruments was carefully shaped through a variety of avenues.

First, much as possible, the wording and intent of the field-initiated statements were maintained in the final instrument.

Second, the complexity of the instrument was kept at a minimum. Three to five point rating scales were used rather than elongated scales. One rating scale was used rather than two for collecting discrepancy data. Respondents were not asked to provide demographic or "hard to access" information about their vocational program. Need statements were formatted so that the fewest possible words were used. Two or three word headings were used to summarize each major goal to simplify the amount of reading required as illustrated in Example 1.

EXAMPLE 1

Samples of Goal Statements with Key Words

Basic Academic Instruction. Provide opportunities for all vocational students to acquire the reading, communication, and math skills required for coursework and jobs.

Relevance of Vocational Content. Insure the relevance of vocational curricula to current job practices and opportunities through effective means for identifying, selecting, and updating content.

Work Experience. Expand opportunities for students to explore and practice job skills in both community and school settings.

Delimiting the focus to major problems. Rather than collecting information about needs in all aspects of urban vocational education, a sequential funneling process was used to delimit the need statements to high priority areas. The first funneling of all possible needs occurred in the exploration stage of the study when only discrepancies perceived as priority problem areas by practicing vocational educators received focus. A second funneling occurred after the initial need statements were developed. A group of 45 reviewers including large city vocational directors, research specialists in vocational education, and graduate students were asked to review the statements and recommend deleting statements which did not reflect high priority concerns.

Collecting both general and specific information about needs. Typically, needs assessments provide information about only very general goals of education. In this study, information was collected about both general and specific areas of need as illustrated in Example 2. The specific information about needs can be more easily translated into action. The general information can be used for major policy and funding decisions. This increases the potential utility of the information.

EXAMPLE 2

Sample of a General Goal and Related Specific Needs

General Goal	Specific Needs
Transition from School to Work. Develop pre-employment job readiness programs and post-employment follow-through activities for assisting students in their transition from school to work.	Pre-employment job readiness programs to help students learn job seeking skills such as job hunting, job interviews, completing job applications, etc. Opportunities for students to develop positive work habits and attitudes (e.g., dependability, ability to follow through, efficient use of time, pride of craftsmanship, willingness to learn). Opportunities for all vocational students to develop leadership skills and motivation through avenues such as vocational youth organizations. Supplementary "life skills" education in areas such as money management. Opportunities for students to develop problem-solving skills for coping with work entry and job adjustment problems. Opportunities for students to become familiar with economic aspects of the world of work.

Use of separate instruments. To help minimize instrument fatigue, the items were divided into five parts so that no respondents would be required to complete more than 84 items. A Major Goals Instrument contained 30 general goal statements. Four Specific Need Instruments contained from 42 to 84 more detailed need statements relating to each of the major goals in the areas of -

(1) Curriculum and Instruction
(2) Administration
(3) Personnel, and
(4) Guidance and Counseling.

Yet at the same time, each instrument was of sufficient length to enhance the reliability of the data.

The various sections of the survey were typically completed by an individual with experience and training related to the content of the items for that section. For instance, the Guidance and Counseling section was typically completed by a district coordinator for Guidance Services. Asking individuals to respond only to items about which they have some content expertise will tend to increase the precision of the individuals' responses.

Dissemination of interim results. Since the study was done sequentially and required a fairly significant time commitment from respondents, results were disseminated at several points in time throughout the study. Preliminary results from the open-ended survey and interviews were presented to a group of vocational educators at a meeting of the American Vocational Association (Koble, 1975). Preliminary results were also described in an article in the American Vocational Journal (Koble and Adams, 1976). A more comprehensive paper on the preliminary results of the study was presented to large city vocational administrators at the Leadership Seminar for Large City Directors of Vocational Education (Koble and Adams, 1976). The study also received the support of the National Association of Large City Directors of Vocational Education through their correspondence and meetings.

Using one scale. The relative priority of the needs was assessed using one "degree of need" scale. Degree of need was defined as "the amount of difference between what is and what should be and the importance of reducing that difference." The scale was carefully defined. Respondents were given specific criteria for making decisions about how to rate each item. Precise definitions to anchor the scale should increase consistency among individual ratings of the items. Also respondents were asked to use a forced distribution to rate the "relative" rather than the "absolute" degree of need across the total set of items.

Although use of multiple criteria (e.g., what is, what should be, the difference between the two, and the importance of reducing the difference) to form one rating, has conceptual limitations, one rating scale was viewed as the optimal approach for this study for the following reasons.

1. Through a feasibility study, it was discovered that respondents found two rating scales impossibly frustrating. Many felt unqualified to rate the "what is" dimension and tended to give all the needs the highest possible rating on the "what should be" dimension.

2. One scale was easier and quicker for respondents to complete. Since the instruments used in this study were long, a simplified rating procedure was essential for maximizing the return rate and limiting instrument fatigue and response sets. The return rate for the study was over 70 percent.

3. Data analysis and reporting of results was simplified.

4. Recent research by Jenkins (1975) has shown a high correlation between the ranking pattern of needs using the discrepancy approach and the patterns resulting when only the "what should be" dimension is used.

Summary

The alternative strategies used in the National Large Cities Vocational Education Needs Study are steps toward resolving some of the methodological problems of needs assessments. One test of the worth of a needs assessment is the extent to which the information collected is used for subsequent decision-making. The results from this study were used in several ways:

- The study was used as a model for designing a National Survey of Vocational Education Needs (Morrison, to be published).

- The National Center for Research in Vocational Education recently funded through a USOE five-year, 25 million dollar grant used the results of the study as a rationale for several of the projects proposed.

- Representatives from the National Association of Large City Directors of Vocational Education presented the results to the state directors of Vocational Education and provided them with a summary version of the results.

References

Ascough, Larry. Dallas Needs Assessment Model. Dallas Independent School District, 1973-74.

Eastmond, J. N. Worldwide Model. Salt Lake City, Utah: Worldwide Education and Research Institute, Revised Edition, 1974.

Edge, Denzil. "Ohio's Instructional Resource Center Network: A Needs Assessment," Ph.D. dissertation. The Ohio State University, 1973.

Hamilton, David L. A Survey of Educational Needs: Secondary School and Community College. Battelle's Center for Improved Education, 1972 and 1973.

Hoepfner, Ralph, Paul A. Bradley, Stephen P. Klein, Marvin C. Alikin. CSE Elementary School Evaluation Kit: Needs Assessment. Center for the Study of Evaluation, University of California at Los Angeles. Boston, Massachusetts: Allyn and Bacon, Inc., 1972.

Holden, Pamela J. Review of the Literature: Needs Assessment. Dallas, Texas: Department of Research, Evaluation and Information Systems, March 1975.

Jenkins, Marie. A Correlation Between Methodologies for Ranking Educational Needs. Masters Thesis. The Ohio State University, 1975.

Kaufman, R. A. Educational System Planning. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1972.

Koble, Daniel E., Jr. "Identifying Needs in Fourteen Large City Vocational Education Programs," Paper presented at the Annual Meeting of the American Vocational Association, December 3-6, 1975.

Koble, Daniel E., Jr. and Kay A. Adams. "Identifying Needs for Big City Vocational Education Programs." American Vocational Journal, April 1976.

Koble, Daniel E., Jr. and Kay A. Adams. "Needs of Vocational Education Programs in Large Cities." Paper presented at the National Leadership Seminar for Administrators of Vocational Education in Large Cities, Columbus, Ohio. March 28-30, 1976.

Lange, Robert R. The National Needs Assessment of the National Center of Educational Media and Materials for the Handicapped. Continuation Proposal submitted to the Bureau of Education for the Handicapped, DHEW, USOE, September 1, 1974.

Morrison, Edward. National Survey of Vocational Education Needs. The National Center for Research in Vocational Education, Columbus, Ohio (to be published).

Ohio Department of Education. Needs Assessment Guidelines. Division of Planning and Evaluation, 1973.

Patton, Michael Q., and others. In Search of Impact: An Analysis of the Utilization of Federal Health Evaluation Research. Minneapolis, Minnesota: Minnesota Center for Social Research, University of Minnesota, 1975.

Read, Bruce. ESA Needs Assessment Procedure Manual. Austin, Texas: Educational Systems Associates, 1974.

Rose, B. Keith. Phi Delta Kappa Model. Chico, California: Northern California Program Development Center, 1973.

Speiss, Madeleine Fromme. "The Effect of Four Communication Variables on the Utilization of Evaluation Conclusions in Decision Making." Ph.D. Dissertation, The Ohio State University, 1973.

Westinghouse Survey. Iowa City, Iowa: Westinghouse Learning Corporation, April 1973.

Witkins, Belle Ruth. Alameda County Needs Assessment Model (ACNAM). Hayward, California: Alameda County School District, 1974.